

CLAIMS

1. Apparatus for providing a digital communication service over a line
from a line termination equipment disposed at a central station to a
5 subscriber terminal, wherein the line termination equipment and the
subscriber terminal incorporate respective first and second management
systems arranged to control and supervise said digital communication
service via messaging therebetween carried in an engineering operations
channel over the line, and wherein the line termination equipment and
10 the subscriber terminal incorporate means for providing said engineering
operations channel in the form of a sequence of asynchronous minicells
over the line.
2. A digital communications system, comprising a subscriber network
15 termination, a line termination equipment, and a transmission path
therebetween, the subscriber termination and the line termination being
coupled to the path via respective first and second modems, wherein the
subscriber termination and the line termination each incorporate
respectively a first and second management system each system
20 consisting of a corresponding plurality of management levels, said first
and second management systems being arranged to control and
supervise said digital communication service via messaging carried in an
engineering operations channel over the line, wherein said subscriber
termination and the line termination each incorporate respective
25 multiplexer means interfacing with the management levels of that
termination, and wherein said subscriber termination and line termination
incorporate respective packet transaction means each interfacing with
the respective multiplexer means for carrying messaging between
corresponding subscriber termination and line termination management
30 levels in an engineering operations channel over the line, said
engineering operations channel being comprised by a sequence of
asynchronous minicells over the line.

3. A digital communication system as claimed in claim 2, wherein said subscriber termination and line termination each incorporate scrambling and descrambling means.

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4. A digital communication system as claimed in claim 3, wherein said line termination equipment is coupled to an ATM backplane whereby the digital service is delivered.

10 5. A digital communication system as claimed in claim 4, wherein said line comprises a twisted conductor pair.

6. A digital subscriber network termination for receiving a digital service over a subscriber line coupled thereto, the subscriber termination
15 including a management system consisting of a plurality of management levels, said first and second management system being arranged to control and supervise said digital communication service via messaging carried in an engineering operations channel over the line, multiplexer
20 means interfacing with the management levels of the subscriber termination, and packet transaction means interfacing with the multiplexer means for carrying messaging to and from the management levels in an engineering operations channel over the line, said engineering operations channel being comprised by a sequence of asynchronous minicells over the line.

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7. A method of providing a digital communication service over a line from a line termination equipment disposed at a central station to a subscriber terminal, the method comprising providing a engineering operations channel for effecting control and management of the
30 subscriber terminal, and transporting said engineering operations channel in a sequence of asynchronous minicells over the line.

8. A method as claimed in claim 7, wherein packet voice traffic is carried in spare capacity in said engineering operations channel.

5 9. A method as claimed in claim 8, wherein the engineering operations channel is framed and byte oriented.

10. A method as claimed in claim 9, wherein the engineering operations channel is scrambled over the line

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11. A method as claimed in claim 10, wherein synchronisation between the central station and the subscriber terminal is performed during a period of transmission of null data on said engineering operations channel.

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12. A method of transporting digital traffic over a line from a central station to a subscriber terminal, the method comprising providing an engineering operations channel over the line, wherein said engineering operations channel is transported over said line in asynchronous minicells.

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13. A method of controlling digital communications system comprising a subscriber network termination, a line termination equipment, and a transmission path therebetween, the subscriber termination and the line termination each incorporating respectively a first and second management system each system consisting of a corresponding plurality of management levels, said first and second management systems being arranged to control and supervise said digital communication service, the method comprising providing messaging paths between corresponding management levels, and multiplexing said messaging paths into an engineering operations channel over the line, and wherein said

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engineering operations channel is transported in a sequence of asynchronous minicells over the line.

1. The first minicell contains the header information and the first data unit.